

standards by rule. See FCC Notice at 65 ("The Commission may * * * establish technical standards or requirements * * * if a government agency or any other person believes that any standards issued [by industry] are deficient.").

41. The Commission is also authorized to issue a rule in this proceeding by Sections 4(i) and 229(a) of the Communications Act of 1934 (47 U.S.C. §§ 154(i) and 229(a)). Section 4(i) gives the Commission the general authority to "make such rules and regulations, and issue such orders, not inconsistent with [the Act], as may be necessary in the execution of its functions." 47 U.S.C. § 154(i). Section 229(a), which was added to the Communications Act by Section 301 of CALEA (108 Stat. 4292-93), specifically provides that "[t]he Commission shall prescribe such rules as are necessary to implement the requirements of" CALEA. *Id.* § 229(a). The authority conferred on the Commission by Section 4(i) and Section 229(a) of the Communications Act complements the authority conferred by Section 107(b) of CALEA.⁹

2. Action by the Commission Is Needed To Correct the Deficiencies of the TIA Interim Standard and Meet the Requirements of CALEA

42. Congress enacted CALEA "to preserve the ability of law enforcement officials to conduct authorized electronic surveillance in the face of the recent, rapid technological changes in

⁹ Section 1.401(a) of the Commission's rules (47 C.F.R. § 1.401(a)) provides that "[a]ny interested person may petition for the issuance, amendment or repeal of a rule or regulation." The Department of Justice, the FBI, and other members of law enforcement are "interested persons" within the meaning of Section 1.401(a).

telecommunications that threaten their ability to intercept communications." FCC Notice at 9. For reasons set forth below and in the attachments to this petition, the TIA interim standard is not adequate to meet this statutory mandate. If the deficiencies in the interim standard are not cured, the ability of federal, state, and local law enforcement agencies to carry out lawfully authorized electronic surveillance will be seriously impaired, with potentially significant harm to public safety and law enforcement. The Commission therefore should supplement the interim standard with additional technical requirements and standards that satisfy the requirements of CALEA.

43. This petition identifies a number of provisions that have been omitted from the interim standard and that should be included in technical requirements and standards established by the Commission. Each of these provisions is set forth in the proposed rule that accompanies this petition (see Appendix 1). Adoption of the provisions of the proposed rule will cure the deficiencies in the interim standard, "meet the assistance capability requirements of section 103 by cost-effective methods" (47 U.S.C. § 1006(b)(1)), and satisfy the other criteria of Section 107(b) (47 U.S.C. § 1006(b)(2)-(5)).

44. In the discussion that follows, we address the deficiencies in the interim standard and explain the corresponding provisions of the proposed rule. Each provision of the proposed rule relates to one or more capabilities that are missing from the interim standard and that must be met under Section 103. In some instances, the capabilities missing from the interim standard can be implemented only in one way, and the provisions of the proposed rule represent the only means of satisfying the capability in question. In other instances, which we note below, the capabilities

missing from the interim standard could be implemented in more than one way. In those instances, the provisions of the proposed rule are intended to represent the most effective means (although not necessarily the only means) by which the capability can be carried out.

45. In many respects, the provisions of the proposed rule concern communications and call-identifying information that law enforcement historically has received. In other respects, which are noted specifically below, the provisions of the proposed rule will result in the delivery of call content and call-identifying information that law enforcement has not previously received, either because law enforcement was technically impeded from accessing the services or because the services were not available to the subscribers in the past. By its terms, Section 103 of CALEA obligates carriers to provide law enforcement with "all wire and electronic communications * * * to or from equipment, facilities, or services of a subscriber" and "call-identifying information that is reasonably available to the carrier"; Section 103 does not restrict this obligation to those communications and call-identifying information that were accessible to law enforcement in the pre-digital era. More generally, the language and legislative history of CALEA make clear that Congress intended for the electronic surveillance capabilities of law enforcement to keep pace with technological developments in the telecommunications industry. As technological changes have made possible new communications services, new information is generated regarding the use of such services by subscribers. Law enforcement cannot preserve the status quo in a meaningful sense unless it is able to obtain such information and thereby keep pace with the evolution of services and technologies. Moreover, all of the call content and call-identifying information at issue in this petition can lawfully be acquired by law enforcement pursuant to Title III surveillance orders and pen register orders, and

the failure to adopt the proposed requirements and standards will thus result in the inability of law enforcement to obtain information that it is legally entitled to acquire.

46. (a) Ability to intercept the communications of all parties in a conference call supported by the subscriber's service or facilities. Under Section 103(a)(1) of CALEA, telecommunications carriers are obligated to ensure that their equipment, facilities, and services are capable of "expeditiously isolating and enabling the government * * * to intercept * * * all wire and electronic communications carried by the carrier within a service area to or from equipment, facilities, or services of a subscriber of such carrier * * * ." 47 U.S.C. § 1002(a)(1) (emphasis added). The TIA interim standard does not satisfy this requirement because it does not ensure the ability of law enforcement to intercept all of the communications of all parties in a conference call supported by the subscriber's service or facilities.

47. At the outset, we wish to be clear about the meaning of several terms used in our discussion of this issue and related issues in this petition. When we refer to "subscriber," we are referring to the person or entity whose "equipment, facilities, or services" (47 U.S.C. § 1002(a)) are the subject of an authorized law enforcement surveillance activity. The subscriber often will be a person or entity suspected of criminal activity, but in some instances, the subscriber will simply be someone whose relationship to a suspected criminal (e.g., spouse or employer) makes it likely that criminal activity will be transacted or discussed over the subscriber's facilities. When we refer to "intercept subject" or "subject," we are referring to any person who is using the subscriber's equipment, facilities, or services, and whose conversations (or dialing activity) therefore would be capable of

being acquired during an interception. In a particular investigation, the "intercept subjects" could include the subscriber, who may or may not be involved in criminal activity; a non-subscriber who is not involved in criminal activity; or a non-subscriber who is involved in criminal activity. As explained below, to the extent that innocent persons are intercept subjects, their interests are protected by Title III's minimization requirements.

48. Title III does not require the subscriber to be "on the line" in order for law enforcement lawfully to intercept communications taking place over the subscriber's facilities or supported by the subscriber's service. With the exception of "roving wiretaps" (see 18 U.S.C. § 2518(11)), interception orders under Title III are directed at particular telecommunications facilities, not at the subscriber, who may not even be a target of the investigation. An interception order must specify "the nature and location of the communications facilities as to which, or the place where, authority to intercept is granted." 18 U.S.C. § 2518(4)(b); see also id. § 2518(1)(B)(ii).¹⁰ But the government is not required to show that the subscriber whose facilities are to be monitored is involved in any way with the criminal activity at issue. Instead, the government need only show probable cause to believe that the facilities "are being used, or are about to be used, in connection with the commission

¹⁰ Although Congress did not define "facility," it is used throughout Title III to describe the thing to be searched, or the communications pathway where the communications are to be intercepted. In practice, the facility is described by the subscriber's telephone number, which would entail network facilities that support and are identifiable with the service associated with that telephone number. It is commonly accepted within the telecommunications industry that "facility" includes numerous components within the entire transmission path over which a communication travels from one conversing party to another. For example, "Facility" is defined as the "[t]ransmission path between two or more points provided by a common carrier." North American Telecommunications Association, *INDUSTRY BASICS* (4th ed.).

of [the specified] offense, or are leased to, listed in the name of, or commonly used by" the intercept target(s). Id. § 2518(3)(d) (emphasis added). With some frequency, Title III orders are issued for facilities of a subscriber who has some connection with a person suspected of criminal activity but who has no involvement in the criminality himself (e.g., an employer, neighbor, or relative).

49. Neither does Title III confine the government to communications in which the individual under investigation is taking part. When the government executes an interception order, it may intercept any communications carried over the facilities covered by the order that relate to the criminal activity under investigation and are otherwise within the scope of the order, even if the individual under investigation does not participate in such communications. See United States v. Kahn, 415 U.S. 143 (1974); see also 18 U.S.C. § 2518(4)(a) (interception order need not specify the identities of the persons whose communications are to be intercepted if the identities are not known). The government is, of course, obligated to "minimize the interception of communications not otherwise subject to interception" under Title III. 18 U.S.C. § 2518(5).¹¹ But this minimization obligation means only that the government must minimize the interception of communications that are unrelated to criminal activity; it does not mean that the government is foreclosed from intercepting communications that do involve criminal activity merely because they do not involve a particular investigatory target.

¹¹ Minimization is ordinarily effected by manually discontinuing the interception and recording of conversations when criminal conduct is not being discussed.

50. In the context of traditional two-party "plain old telephone service" (POTS), telecommunications historically have been accessible at any place within the local loop associated with a call. Thus, any communication that could be "tagged" or identified as connected to a particular subscriber's telephone service would be technically subject to interception, regardless of who is being intercepted over that service.

51. POTS is being replaced by telephone services with greater functionality, including conference calling capabilities, which allow a subscriber (or other person using the subscriber's services) to join several different parties, each on a separate "leg" of the call, in one call. Title III interception orders authorize law enforcement to acquire all criminal communications of all parties conversing over the subscriber's facilities or services, including communications on any "leg" of a conference call at all times. Under the TIA interim standard, however, law enforcement would be able to intercept only those communications occurring over the leg of the call to which the subscriber's terminal equipment is actually connected to each leg of the call at any point in time. As long as the subscriber's terminal equipment is connected, law enforcement could monitor all legs of the call. But law enforcement would have no access to certain communications supported by the subscriber's service or carried over the subscriber's facilities in the event that the person using the subscriber's services placed some of the conferenced parties on hold or dropped off the call. This does not amount to a reduction in the information that has been available to law enforcement under POTS, but as we show below, it nevertheless falls short of carrying out the legal obligations imposed by Section 103 of CALEA.

52. Under the interim standard, an intercept subject might initiate a conference call with two associates, A and B, then place A and B on hold while answering an incoming call. A and B could continue talking while the subject speaks to the incoming caller on another line. Law enforcement would not receive the content of the conversation between A and B, even though that conversation is being supported by the subscriber's service or carried by the subscriber's facilities, may legally be intercepted under the Title III order, and is pertinent to the criminal activity under investigation.

53. The failure to provide law enforcement with the communications of all parties in a conference call when some call participants are temporarily placed on hold or the subscriber drops off the call could deprive investigators and prosecutors of important evidence, particularly in conspiracy cases. Participants in a conspiracy may continue to discuss criminal activities among themselves when an intercept subject puts them on hold. Similarly, criminal conversations supported by the subscriber's service or carried over the subscriber's facilities may continue even after the intercept subject hangs up. Without the capability to intercept these conversations, vital evidence that law enforcement is authorized to intercept may be lost.

54. For example, a prisoner who wishes to speak to criminal associates about an ongoing criminal enterprise, such as drug smuggling, can call his girlfriend, the subscriber whose facilities and services are being monitored by law enforcement, and have her bring his associates into a conference call supported by the girlfriend's facilities and services. The girlfriend can then drop off the call while the prisoner and his associates discuss their plans. This particular scenario is one that law enforcement has encountered on multiple occasions and continues to encounter. Under the

interim standard, law enforcement loses its ability to monitor the conversation between the prisoner and his associates as soon as his girlfriend hangs up, even though the conference call is being supported by the girlfriend's service and facilities and the conversation provides direct and otherwise unavailable evidence of continuing criminal activity.

55. The failure of the interim standard to provide law enforcement with access to all communications supported by a subscriber's service or carried over the subscriber's facilities, without regard to the intercept subject's presence on the line, renders the interim standard plainly deficient. As noted above, Section 103(a)(1) of CALEA expressly requires carriers to provide law enforcement with "all wire and electronic communications carried by the carrier * * * to or from equipment, facilities, or services of a subscriber * * * ." 47 U.S.C. § 1002(a)(1) (emphasis added). The communications of all parties, including other criminal associates that are connected (or placed on hold) in a conference call supported by a subscriber's telecommunications service, are therefore squarely within the language of Section 103(a)(1), for the conference call continues to be carried by the subscriber's facilities and supported by the subscriber's service even when the subscriber is not on the line. The House Report specifically states that CALEA was intended "to preserve the government's ability * * * to intercept communications involving * * * services and features such as * * * conference calling." House Report at 9 (emphasis added). Nothing in CALEA requires the subscriber or intercept subject to be "on the line" in order for law enforcement lawfully to intercept communications occurring over the subscriber's facilities or supported by the subscriber's service. And as noted above, Title III similarly focuses on the subscriber's facilities and services rather than

on the participants of the call. Thus, to the extent that industry may believe that Title III does not authorize law enforcement to intercept the communications of parties other than the subscriber or intercept subject in a conference call supported by the subscriber's service or carried over the subscriber's facilities, that belief is mistaken.

56. The proposed rule requires telecommunications carriers to "ensure that their equipment, facilities, or services are capable of providing to law enforcement all content of conferenced calls over a subscriber's equipment, facility, or services * * * ." Appendix 1, § 64.1708(a). The rule defines this capability as "the ability to monitor a multiparty or conference call established by the subscriber's equipment, features, or services where two or more parties are allowed to converse after the subject leaves the conversation, temporarily or permanently." Ibid. This capability is a necessary component of the general assistance capability mandated by Section 103(a)(1) of CALEA and must be included in any technical requirements and standards established by the Commission.

57. (b) Access to call-identifying information. The interim standard is also deficient in its provisions regarding access to "call-identifying information." CALEA defines "call-identifying information" as "dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunication carrier." 47 U.S.C. § 1001(2). Section 103(a)(2) of CALEA obligates telecommunications carriers to "expeditiously isolat[e] and enabl[e] the government * * * to access call-identifying information that is reasonably available to the carrier

* * * ." 47 U.S.C. § 1002(a)(2). As we now show, the interim standard is deficient because it fails to include assistance capabilities required to satisfy this statutory obligation.

58. Acting pursuant to pen register orders,¹² law enforcement traditionally has acquired all dialing input by the intercept subject and other signaling information relevant to determining the status of a call. This information included certain tones (e.g., call waiting) and signaling information (e.g., the subject's pressing of the flash hook) indicating (1) call waiting, (2) the placing of a party on hold, (3) a conference call, or (4) transfer of a call. By acquiring such dialing and signaling information, law enforcement could identify the final destination of a call, and in many instances who was a party to a call at any given time.

59. Modern telecommunication technology no longer relies on dialed digits as the exclusive means of processing, establishing, controlling, and maintaining calls. Other signaling is switch-based or network-based and occurs at the carrier's central office or elsewhere in the network.¹³ The broad definition of "call-identifying information" in CALEA (47 U.S.C. § 1001(2)) is designed to

¹² When attached to a subscriber's telephone facilities or service, pen register devices draw in all of the dialing and signaling information that traverses the facilities or service to complete the establishment of a call. Also, these devices print out whether the ringing indicates a busy signal, show the beginning time of call placement ("off hook"), the duration of a call, and the concluding time of a call ("hook"), and also indicates when a called party answers. By definition, a pen register device "records or decodes electronic or other impulses which identify the numbers dialed or otherwise transmitted on the telephone line." 18 U.S.C. § 3121.

¹³ In intelligent networks (IN), the routing of calls may be controlled by network elements other than the switch.

ensure, inter alia, that law enforcement has access to the same kind of call processing signaling information to which it always had access through the use of pen registers.¹⁴ By defining "call-identifying information" as "information that identifies the origin, direction, destination, or termination of each communication," Congress demonstrated an intent to provide law enforcement with meaningful information that would enable it to understand the status of the call and identify the parties connected to the call throughout the entire call, not just the fact that a call was initiated or completed.

60. The interim standard falls short of the statutory requirement. While the interim standard provides for the delivery of most call-identifying information associated with the initiation and completion of a call, it omits three vital capabilities relating to call-identifying information. Those capabilities are: (i) access to subject-initiated dialing and signaling activity; (ii) messages indicating whether a party is connected to a multiparty call at any given time ("party hold," "party join," and "party drop" messages); and (iii) notification messages for network-generated in-band and out-of-band signaling. These capabilities are necessary to provide accurate and complete call-identifying information, and they should be incorporated by the Commission in its technical requirements and standards. In addition, the Commission should require that all call-identifying information be delivered over a call data channel. As we explain below, delivery of call-identifying information over

¹⁴ Prior to CALEA, law enforcement agencies obtained, pursuant to pen register orders, signaling information that indicated whether the subject had gone "off hook" to initiate a call and information indicating that the subject had gone "on hook" to terminate a call (party release). Hence, law enforcement agencies were able to make sense out of calling efforts through the acquisition of such call-identifying information.

a call data channel may not always be necessary in order for a carrier to perform its assistance capability obligations under Section 103, but doing so represents the most efficient and privacy-enhancing means of discharging those obligations.

61. (i) Subject-initiated dialing and signaling activity. When a subscriber receives services such as call forwarding or call transfer, the subscriber or another person using the subscriber's telephone may input dialing or signaling information within a call to control such services. This information may be generated when the subject presses a feature key, such as a hold or transfer key, or when the subject presses the flash hook. For example, a subject who is speaking to one associate (A) may press a transfer key (thereby placing A on hold), call another associate (B), speak to B, then press the transfer key again and drop off the call, leaving A and B to continue the call with each other. The call continues to be supported by the subscriber's service and facilities even after the subject has dropped from the call.

62. The interim standard does not require the delivery of a call data message when the intercept subject inputs dialing or signaling information within a call in this fashion. As a result, under the interim standard, law enforcement will not receive call-identifying information indicating that the intercept subject has, for example, pressed or dialed certain feature keys to manipulate the call. This is information that law enforcement traditionally has been capable of receiving and is legally authorized to receive.¹⁵ Absent a requirement that carriers deliver this information, however, law

¹⁵ In the past, law enforcement was able to detect flash hook signaling by detecting recorded changes to the electrical signaling on the analog local loop. In modern digital systems, the

enforcement will lose access to the information in a digital environment, because digital switching prevents law enforcement from having the same access to the intercept hardware or location that it has today.

63. Absent a message indicating that the subject has pressed one of the feature keys or the flash hook, law enforcement will be presented with potentially severe investigative, evidentiary, and prosecutorial problems. Law enforcement may be unable to determine what has happened to a call when the call dramatically changes for no apparent reason. For example, a subject who is engaged in criminal conspiracy with two associates may use his flash hook capability to move back and forth rapidly between the two associates in two concurrent call legs. Without the receipt of a message showing the "flash" event, law enforcement may be unable to follow the course of the conversation or determine to whom the subject is speaking at any point in the conversation.

64. In addition, law enforcement will be left with an incomplete and potentially inaccurate evidentiary picture of the subject's dialing and signaling activities incidental to his calls. The absence of messages indicating dialing or signaling that significantly changes the call would undermine the ability of law enforcement to present critical evidence and testify in court on such fundamental matters as whether the subject was still involved in the call at a particular time; if so, in what fashion; and if not, what happened to the call.

equivalent signaling is done via data messaging.

65. CALEA was enacted to prevent the loss of such critical information and evidence. Industry has suggested that dialing and signaling beyond the digit keys and feature codes initiating a call are not "call-identifying information." However, a subject's dialing and signaling inputs during a call that control services like call forwarding and call transfer come squarely within CALEA's definition of "call-identifying information," for they constitute "dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber * * * ." 47 U.S.C. § 1001(2). As explained above, without this signaling information, law enforcement will be unable to identify the destination of each communication. Moreover, CALEA's legislative history makes clear that CALEA was intended "to preserve the government's ability * * * to intercept communications involving * * * features and services such as call forwarding, speed dialing, and conference calling * * * ." House Report at 9. The interim standard is fundamentally deficient in this regard.

66. The interim standard also excludes information about another important kind of subject-initiated dialing and signaling activity: "post-cut-through" dialing. In long distance calls, credit card calls, and (in some instances) local calls, the dialing and signaling information necessary to complete a call and reach the intended party frequently occurs after the "cut-through."¹⁶ For example, when

¹⁶ "Cut-through" means the completion of a connection in one direction (partial), or both directions (full), between two call appearances. See Appendix 1 (§ 64.1702). There are two communications paths that must be connected in order for one party to communicate with another party through a telephone switch: the forward talk path and the reverse listen path. Normally, when a call is set up, the caller's reverse listen path is connected to the called party's talk path first, because often the "called party" is an additional switch which may put a busy signal or some announcement on that path. That is referred to as "partial cut-through." When the second switch provides an answer signal to the first switch, because the called party answered or the second switch needs to

using a credit card, a subject may dial through one service (X) to the carrier's (Y's) 800-number service and will then be prompted to continue dialing the telephone number to reach the party being called (i.e., the destination of the call). The numbers dialed are then transmitted over X's equipment, facilities, and services to reach the called party. The numbers dialed after the connection is made to Y's service occur after the "cut-through." Thus, the destination of the call is revealed only by the numbers dialed after the cut-through.

67. The interim standard does not require carriers to provide law enforcement with access to post-cut-through dialing information. Under the interim standard, therefore, law enforcement will not have access to digits dialed after the call is connected. This is information which law enforcement traditionally received in the pre-CALEA POTS environment.¹⁷ Without this information, law enforcement will be unable to determine the destination of some subscriber-initiated calls.

68. The inability to obtain post-cut-through dialing information creates obvious investigative and evidentiary problems. For example, law enforcement agents may find it substantially more difficult,

collect additional digits to route the call, the first switch will connect the caller's forward talk path to the called party's listen path. When both paths are connected it is called "full cut-through."

¹⁷ In the analog era, law enforcement obtained information via pulses and tones, which were signaled across the analog local loop to which law enforcement was directly connected. Much of this information is now digitized and therefore not capable of being interpreted by law enforcement through use of a pen register. In addition, information regarding many relatively new features does not pass through to the local loop, but remains accessible only in the switch.

if not impossible, to establish the identity of the party to whom the intercept subject is speaking if they are unable to identify the phone number associated with that party. Thus, in an illegal drug case, law enforcement might be unable to link a drug distributor with the source of his drugs. Similarly, in a child pornography case or other case in which a subject uses the telephone to contact buyers, law enforcement might be limited to the arrest of a single subject rather than all participants, because law enforcement would only have information about which long distance company the subject was using -- not the subsequent post-cut-through digits that would have identified the called parties.¹⁸

69. A carrier's failure to provide law enforcement with all of the subject's dialing, including post-cut-through dialing, amounts to a failure to provide law enforcement with the number of the party that the subject actually called. The failure to mandate access to all dialing and signaling information necessary to complete the call therefore renders the interim standard fundamentally and critically deficient under Section 103 of CALEA. Under CALEA's definition of call-identifying information, post-cut-through dialing and signaling information that completes a call is "signaling information" that identifies the "destination" of the call. 47 U.S.C. § 1001(2). Omission of this information conflicts with the carrier's basic obligation under Section 103(a)(2) to "isolat[e] and enabl[e] the government * * * to access call-identifying information that is reasonably available to

¹⁸ Even if law enforcement could eventually obtain the post-cut-through dialing information from the long distance carrier, it would not be accessible in a timely fashion, so as to permit the dialing to be associated with the call content, as required by Section 103(a)(2)(B) of CALEA (47 U.S.C. § 1002(a)(2)(B)). Moreover, a subject could change to a new long distance carrier at the beginning of each call.

the carrier." Id. § 1002(a)(2). It also conflicts with the additional obligation to ensure that call-identifying information is provided "in a manner that allows it to be associated with the communication to which it pertains." Id. § 1002(a)(2)(B).

70. Industry has suggested that its obligation under Section 103 of CALEA ends once a call effort connects, for example, to an 800 calling card service. Law enforcement believes that the Commission has addressed this issue and concluded otherwise. The Commission has recognized that a call is not "completed" when it connects to an 800 calling card service, but rather when it connects to the called party.¹⁹ Under CALEA, therefore, the "call-identifying information" that must be associated with a "communication" includes all dialing required to complete the call.

71. CALEA does not draw any distinction between pre-cut-through and post-cut-through dialing or signaling information used to process, direct, or complete a call. Nor is there any privacy-based constraint under CALEA, the pen register statutes, or the Constitution that prevents a carrier from providing all such dialing information, whether pre-cut-through or post-cut-through.²⁰ Congress was aware that federal officials have long obtained all dialing information of a criminal subject, including

¹⁹ See FCC Report and Order, In re Implementation of the Pay Telephone Reclassification and Compensation Provisions of the Telecommunications Act of 1996, Docket No. 96-388 (Sept. 20, 1996), at 33 ("a 'completed call' is a call that is answered by the called party").

²⁰ See United States v. New York Telephone Co., 434 U.S. 159 (1977) (dialing information obtained by a pen register device does not constitute the contents of a communication requiring a Title III court order); Smith v. Maryland, 422 U.S. 735 (1979) (no Fourth Amendment protection for dialing information).

post-cut-through dialed numbers, pursuant to pen registers executed in the "local loop," and Congress expressed no intention in CALEA to change this capability. Without such information, law enforcement will be unable to determine the destination of subject-initiated calls. Therefore, access to post-cut-through dialing information is required under CALEA and should be incorporated into technical requirements and standards established by the Commission.

72. The proposed rule provides that carriers "shall ensure that their equipment, facilities, or services are capable of providing law enforcement with access to all subject-initiated dialing and signaling, including the use by a subject of flash hooks, feature keys, and all other key usage." Appendix 1 (§ 64.1708(c)). The proposed rule further provides that carriers "shall ensure that their equipment, facilities, or services are capable of extracting the digits dialed by the subject following cut-through at the access point and delivering those digits to the law enforcement agency in a post-cut-through InBandsDigit message containing those digits." Id. (§ 64.1708(i)).

73. **(ii) Information on participants in a multi-party call.** A subscriber may subscribe to services or features that would support a multi-party call. If so, various associates can be added to, placed on hold during, or dropped from a call. The interim standard does not require carriers to provide any signaling information or message indicating that a party has joined a call, been placed on hold, or dropped from a call. The exclusion of this information from the interim standard will deprive law enforcement of important investigative and evidentiary information to which it is lawfully entitled.

74. Law enforcement seeks the delivery of three messages that would provide it with access to information about which parties are participating in a call. A "party hold" message would be generated when any party is placed on hold by the intercept subject. A "party join" message would be generated when (1) one or more parties previously placed on hold are added to the current call or (2) a party joins an existing call with an intercept subject. A "party drop" message would be generated when a party is released from a multi-party call and the call continues among two or more other parties.

75. Party hold, party join, and party drop messages enable law enforcement to identify who is connected in a subject's conference call at any point in the conference. Knowledge of when participants join or depart a call enables law enforcement to identify the source and recipient of each communication within a conferenced call. Without these messages, law enforcement would not know who joins or leaves a conference call, whether the subject alternated between calls, or which parties heard or said parts of a conversation. Such information can be critical for investigatory purposes, particularly in conspiracy cases. For example, if an organized crime leader issues instructions to carry out a murder in the course of a multi-party call, and law enforcement cannot tell which of a number of conferenced associates were participating in the conversation at the time, it may be substantially more difficult to prevent the murder from taking place.

76. In addition, incomplete call-identifying information prevents the collection of evidence that parties remained on a call after they first joined. Thus, if a party remains silent, a law enforcement agency executing a Title III interception order has no way of demonstrating that the party heard

significant portions of the communication. The lack of such evidence may allow doubt to be raised as to whether a party participated in all communications in a call and may jeopardize prosecutions based on that evidence.

77. In the analog environment, law enforcement obtained, pursuant to pen register orders, signaling information indicating that a subject joined other participants in a multi-party call. However, law enforcement was unable to obtain information that a particular participant was placed on hold during, or dropped from, a multi-party call, because such information resided within, and required access to, the switch. Law enforcement could therefore identify the range of participants who might be involved in a multi-party call, but would have to infer specifically which participants heard portions of the call. CALEA's definition of "call-identifying information" now obligates carriers to provide this information.

78. Industry has suggested that party join, party hold, and party drop messages do not constitute "call-identifying information" as that term is defined by CALEA. However, Congress chose to define "call-identifying information" as dialing or signaling information that is specific to "each communication" generated or received by a subscriber. 47 U.S.C. § 1001(2). When calls placed to or by a subject are affected by triggering the joining, holding, and releasing of parties, each function essentially has the same fundamental purpose and effect -- it controls the "direction," "destination," or "termination" of the communication of each "leg" of the call. Information that enables law enforcement to identify the destination of a call or to understand its status thus falls squarely within CALEA's definition of call-identifying information. Ibid. The interim standard's failure to include

party join, party hold, and party drop messages therefore renders it deficient under Section 103 of CALEA.

79. The proposed rule provides that carriers "shall ensure that their equipment, facilities, or services are capable of providing messages to law enforcement that enable law enforcement to identify the parties to a conversation at all times." Appendix 1 (§ 64.1708(b)). The proposed rule defines specific requirements and parameters for "party join," "party hold," and "party drop" messages. Id. § 64.1708(b)(1)-(9).

80. (iii) Access to all network-generated in-band and out-of-band signaling. When a call attempt is sent to or from a subscriber's service, it produces network-generated signals such as ringing, busy signals, or a call waiting signal. These signals may be either "in-band" (transmitted over the same circuit as the communication) or "out-of-band" (transmitted over a separate circuit). For subject-originated call attempts, such signals indicate whether the subject ends a call because the associate's line is ringing, busy, or before the network could complete the call to the associate. For incoming call attempts to the subject, the signals indicate whether the subject's telephone was alerted by tones, a visual indicator, or by a text message. Signaling information generated by call attempts has both investigatory and evidentiary significance for law enforcement. For example, criminals may use ringing signals as a way of conveying pre-arranged messages to each other without having to engage in direct conversations over the phone system.

81. The interim standard does not require carriers to provide law enforcement with notification of network-generated call progress signals. This omission is inconsistent with the requirements of Section 103(a)(2) of CALEA, for despite industry's apparent contrary view, such signaling falls squarely within CALEA's definition of "call-identifying information." Call-identifying information includes "signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber * * * ." 47 U.S.C. § 1001(2) (emphasis added). A call attempt may "terminate" with ringing (without an answer), a busy tone, or a trunk busy signal; signaling such as this conveys information on call termination and therefore constitutes call-identifying information. Similarly, a network-generated call-waiting tone or a "stutter" dial tone (which indicates that a call was redirected to a voice mail system and a voice mail message was recorded) would identify the "direction" or "destination" of a call, and would therefore constitute call-identifying information. In short, CALEA requires carriers to provide law enforcement with any signaling information indicating how the network treated a call attempt: whether or not it was completed, how the call may have been redirected or modified, and how the call ended. This information historically has been available to law enforcement on call content channels; stutter dial tones and other tones are audible signals sent to the subscriber over the local loop, to which law enforcement has access. However, digital switching and new technology have given rise to network-generated call progress messages that are not available over call content channels.

82. The proposed rule provides that carriers "shall ensure that their equipment, facilities, or services are capable of providing notification messages to law enforcement over the CDC [call data

channel] of in-band and out-of-band signaling from the subscriber's service throughout each call." Appendix 1 (§ 64.1708(d)). The rule provides that notification messages "shall be triggered and delivered to the law enforcement agency to report out-of-band signaling delivered through a subscriber's service that can be sensed by the subject and to report in-band signaling applied by the equipment, facilities, or services supporting the subscriber's terminal." Ibid. The rule also defines specific requirements and parameters for notification messages. Id. § 64-1708(d)(1)-(3).

83. (iv) Delivery of call-identifying information on call data channel. In the interim standard, industry proposes to deliver certain call-identifying information over "call data" channels or circuits that would be separate from the "call content" channels or circuits that deliver intercepted communications. However, industry has suggested that other call-identifying information, such as the post-cut-through digits described above, need not be provided over the call data channel, but that law enforcement instead should extract that information from a separately leased call content channel.

84. Industry contends that Section 103 does not mandate delivery over a call data channel of call-identifying information that is capable of being extracted from the call content channel. We agree that a carrier could comply with its delivery obligations under Section 103 without delivering this information in this fashion.²¹ However, CALEA contemplates that carriers will employ the most efficient and effective means of delivering authorized surveillance information to law enforcement.

²¹ As industry appears to recognize, certain call-identifying information must be delivered over a call data channel because it is not available on a call content channel.

See, e.g., 47 U.S.C. §§ 107(a)(1) (requiring consultation between law enforcement and industry "[t]o ensure the efficient and industry-wide implementation of the assistance capability requirements of section 103") (emphasis added); id. § 109 (addressing recovery of costs incurred to establish the capabilities required by Section 103). Having two separate channels to access and process call-identifying information would result in a substantial and unnecessary duplication in equipment, facilities, and cost. Unless all call-identifying information is delivered over a call data channel, law enforcement would be required, for the execution of a pen register order alone, to procure both a call data channel and a call content channel to ensure delivery of all of the dialing activity used to complete or control a call, even though that information could easily be delivered over a single call data channel. This kind of duplication of effort and expense is inconsistent with the spirit and purposes of CALEA.

85. A more cost-effective solution is to specify that all call-identifying information, including all dialed digits, be delivered to law enforcement over the call data channel. Requiring that appropriate call-identifying information be delivered over a call data channel or circuit is consistent with the legislative purpose of providing law enforcement with the information in the most efficient and effective means reasonable. In addition, delivering call-identifying information over a call data channel minimizes the risk of inadvertent intrusions on call content when the government is seeking only call-identifying information. It thus furthers the carriers' responsibilities under Section 103(a)(4)(A) of CALEA (47 U.S.C. § 1002(a)(4)(A)) to provide access to call-identifying information "in a manner that protects * * * the privacy and security of communications and call-identifying information not authorized to be intercepted." For these reasons, the proposed rule